UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

February 2002

THIS IS NOT A SOLICITATION
NOTICE TO PROSPECTIVE OFFERORS

PROSPECTUS NO. 42-M-APHIS-02 FOR AERIAL APPLICATION

The U.S. Department of Agriculture, APHIS, MRP-ASD may require services for contract for aerial application of pesticides for the Grasshopper and Mormon Cricket programs. Solicitations for offers will be issued to pre approved aerial applicators when service is required. All applicable provisions and specifications of this prospectus will be incorporated into solicitations by reference only and will become a part of any resultant contract. You should retain this copy for reference when offers are requested. Facsimile offers will be accepted.

All Representations and Certifications, Section K as included in the Solicitation Mailing List Application, will be applicable to all solicitations and resulting contract(s) referencing this prospectus. The procurement will be made by negotiation in accordance with Federal Acquisition Regulations 6.302-2 Unusual and Compelling Urgency. Note: There will be no public opening, therefore, no information will be given until award is made. It is the responsibility of each offeror to advise us in writing of any changes to the information provided in your application and to the Representations and Certifications.

U.S. Department of Agriculture
APHIS MRP-ASD
Contract Team
Bulter Square Fifth Floor
100 North Sixth Street
Minneapolis, MN 55403
Telephone 612-370-2217 or 612-370-2115
Fax 612-370-2106

TABLE OF CONTENTS PAGE NUMBER

GENERAL CONDITIONS AND SPECIFICATIONS

SECTION I - GENERAL

SECTION II - CONTRACTOR RESPONSIBILITY

SECTION III - GOVERNMENT RESPONSIBILITY

SECTION IV - CONTRACT ADMINISTRATION

The following information will be included with each solicitation.

DESCRIPTION

1. Pesticide: _____ gallons/lbs plus or minus 25 percent, to be applied for control of _____ in the State(s) of _____ ,

estimated number of acres _____

2. Location: _____

3. Pesticide: _____ Rate of application (actual formulation) _____ per acre

4. Location of pesticide storage site(s): _____

5. Pesticide will be delivered in: _____ (bulk, barrels, bags, or boxes).

6. Aircraft required:

(a) Category & Number: _____ Fixed Wing: Yes or No: _____ Matched: Yes or No: _____ Same Make & Model: Yes or No: _____

(b) Observation: Yes or No: _____ with minimum speed of _____ mph (Note: If application aircraft is Category A or B = 160 mph, If application aircraft is category C = 150 mph, or if application aircraft is category D and all helicopters = 130 mph).

7. Estimated average ferry distance: _____ miles Elevation range of work area: _____ feet

8. Minimum block size:_____

9. Approximate percent of area not to be treated:_____

10. Congested areas, percent: _____

11. Estimated reporting date:_____

12. Estimated starting date:_____

13. Number of operational hours allowed to complete the contract:_____

14. Number of days required for State certification: _____

15. Guidance: DGPS (precision): _____ Flagging (non-precision):_____ (See page 9 of this prospectus for a description of each).

Furnished by Contractor: Yes or No: _____ Furnished by Government: Yes or No: _____

16. Recording equipment. Furnished by Contractor: Yes or No:_____ Furnished by the government: Yes or No:_____ (See page 9 of this prospectus for a description of recording equipment).

17. Pesticide loading equipment required: Yes or No _____

18. Pesticide mixing equipment required: Yes or No _____ Type _____ (Refer to Prospectus)

19. Water Transport: Yes or No _____ (Refer to Prospectus)

20. Name and telephone number of Contracting Officer's Representative (COR):_____

21. Site specific information: Rough terrain_____% Sensitive Areas_____% Water_____% Buffers Required _____%

22. Any additional information: (Examples: Deviation from listed swath spacing; Reduced rates of application; etc.)

BID SCHEDULE

ITEM NO. 1

Offeror to furnish all Aircraft, Personnel, Facilitating Equipment, and services that fully comply with all terms and provisions herein specified and Prospectus No. 42-M-APHIS-02, dated February 2002.

Prompt Payment Discount _____ % _____ Days

AIRCRAFT CATEGORIES

The Aircraft Categories have been established to facilitate program planning for required aircraft based on the insect life cycle, timing of application, support personnel, adequate airport space, required aircraft performance, length and strength of runways, taxi ways and ramps, and the elevation and type of terrain to be treated.

The chart below lists aircraft by category, the assigned swath spacing for Malathion, Sevin XLR Plus, Dimilin 2L, and the stainless steel flat fan spray tip size required for the pesticide used. When using Reduced Agents and Area Treatments (RAATs), use the assigned swath width for calibration but space the aircraft an additional 25 feet when using malathion and an additional 100 feet when using Sevin XLR Plus and Dimilin 2L. Example: A turbine Air Tractor will be calibrated for a 150 foot swath and spaced 175 feet when using malathion. When using Sevin XLR Plus or Dimilin 2L, the aircraft will be calibrated for 125 feet and spaced 225 feet.

AIRCRAFT	**MALATHION**	**SEVIN XLR PLUS**	**DIMILIN 2L**			
	FEET	**FEET**	**FEET**	**MALATHION**	**SEVIN XLR PLUS**	**DIMILIN 2L**
CATEGORY A - FIXED WING						
L100-30 Hercules (w/Adds Pack Spraying System)	800	650	650	8008	8010	8015
CATEGORY B - FIXED WING						
Douglas DC-3/C-47	400	300	300	8008	8010	8015
Martin 404	500	350	350	8010	8015	8020
CATEGORY C - FIXED WING						
Ag-Cat (800 hp)	150	100	100	8003	8004	8004
Ag-Cat (1200 hp)	150	100	100	8004	8006	8006
Dromader M-18	150	100	100	8004	8006	8006
Piper Aztec PA-23 (500 hp)	150	100	100	8004	8006	8006
Thrush (800 hp)	150	100	100	8003	8004	8004
Thrush (1200 hp)	150	100	100	8004	8006	8006
Turbine Ag-Cat	150	100	100	8004	8006	8006
Turbine Air Tractor	150	100	100	8004	8006	8006
Turbine Thrush	150	100	100	8004	8006	8006
Twin Beech/C-45	150	100	100	8004	8006	8006
CATEGORY D - FIXED WING						
Ag-Cat (A&B Models,450 hp)	100	100	100	8002	8003	8003
Ag-Cat (B&C Models,600 hp)	125	125	125	8002	8003	8003
Bellanca Eagle	100	100	100	8002	8003	8003
Cessna (all 188 Models)	100	100	100	8002	8003	8003
Piper Brave	100	100	100	8002	8003	8003
Piper Pawnee (120-260 hp)	100	100	100	8002	8003	8003
Stearman (450-600 hp)	100	100	100	8002	8003	8003
Thrush/Snow/Air Tractor	125	125	125	8002	8003	8003
Weatherly	100	100	100	8002	8003	8003

CATEGORY A - HELICOPTERS			
Bell 204/205/212/214	150	120	120
Sikorsky S-58-T	150	120	120
CATEGORY B - HELICOPTERS			
Alouette III	120	100	100
CATEGORY C - HELICOPTERS			
Alouette II	100	75	75
Bell 206	100	75	75
Bell Soloy	100	75	75
Hughes 500	100	75	75
Hiller Soloy	100	75	75
CATEGORY D - HELICOPTERS			
Bell 47	100	75	75
Hiller 12E	100	75	75

SECTION I

GENERAL CONDITIONS AND SPECIFICATIONS

A. Scope

The USDA, APHIS, Plant Protection and Quarantine, herein after referred to as the Government, requires aircraft, personnel, facilitating equipment, and services to apply pesticides.

B. Importance of Starting on Time

Offerors are reminded that there are numerous biological and entomological factors that determine the time and sequence of treatments. The importance of starting and completing a program within specified limits is critical. The objective of each program is to achieve the desired coverage of the designated geographic areas within specified time frames.

C. Gallons Plus or Minus 25 Percent

Any offeror submitting an offer in response to a solicitation subject to this Prospectus acknowledges, without qualification, that he understands and agrees to apply the total gallons/lbs specified in the Description, plus or minus 25 percent. All such application, whether plus or minus 25 percent of the total specified, will be made at the contract price per gallon/lbs.

D. Notice of Award

Notice of Award and Notice to Proceed will be issued by the Contracting Officer (CO) only. Each contract covers the period from the date of award until the contract is completed or terminated.

E. Contracting Officer's Representative (COR)

The CO will designate a representative who will have authority to secure orderly administration of each contract. The COR will have no authority to change the basic terms of the contract. The COR will be a certified pesticide applicator.

F. Airport - Definitions

1. Airport, as used in this Prospectus and each solicitation, means any airport, airstrip, or work site where the Contractor will load his aircraft during contract operations.
2. Reporting airport means the airport to which the Contractor shall deliver his aircraft for inspection and acceptance tests.

G. Day - Definition

Day, as used in this Prospectus, means calendar day. Operations may be conducted 7 days per week, and may include all holidays.

H. Reporting and Starting

1. The reporting date shown in each solicitation is an estimated date. The actual reporting date will be specified by the CO after award is made. The number of days prior to the official starting date will vary, depending on the number and category of aircraft involved, time required to brief pilots on the program and areas to be treated, and completing all preliminary arrangements to start the program on time. A Contractor who does not report on the official reporting date may, at the discretion of the CO, be charged liquidated damages. At the discretion of the CO, the Contractor may be terminated for default and be charged liquidated damages. Liquidated damages will be charged for that day and for each day thereafter until the Contractor, or in the event of termination, a new Contractor reports. The Contractor must report by 12:00 noon on the reporting date specified in the solicitation.

2. The starting date shown in each solicitation is an estimated date when all aircraft, personnel, and facilitating equipment must be ready to begin application. The official starting date will be specified by the CO when award is made, and will be the latest date on which the Contractor must be fully prepared to begin application. (See Section IV, Paragraph H.)

3. A Contractor who does not fully qualify for acceptance on the official starting date may, at the discretion of the CO, be charged liquidated damages. At the discretion of the CO, the Contractor may be terminated for default and be charged liquidated damages. Liquidated damages will be charged for that day and for each day thereafter until all requirements are met. The amount charged will be the daily liquidated damages rate for each aircraft specified to report, even though one or more aircraft may have been qualified and accepted. The Contractor shall have assembled at the reporting airport all required aircraft, personnel, and facilitating equipment and be ready to begin spraying on the official starting date at the time specified by the COR. This includes the specified category and number of aircraft, each meeting the contract requirements; all pilots, each fully qualified; all aircraft loading and facilitating equipment; and loading and servicing personnel. No application for payment to the Contractor will be authorized until all of these requirements are met.

4. The CO will give the Contractor a minimum of 3 calendar days advance notice to report and start, unless a shorter interval is mutually agreed upon. The days allowed for reporting will be determined by the number and type of aircraft involved.

I. Operational Hours Allowed to Complete Program

1. Operational hours are defined as those hours during a day when the COR has cleared the aircraft for application operations. Operational hours will be charged to the last full half hour, beginning when the aircraft are cleared for takeoff and continuing until operations are shut down. Operational hours charged will include all time the aircraft are on the ground between trips, but will not include aircraft loading time prior to the approved starting time or after operations are shut down.

2. The number of operational hours allowed on a program is based on the time the specified number of aircraft would normally need to complete the program. Example: It is estimated that a Category C aircraft should be able to spray at least 500 acres per operational hour. Thus, one Category C aircraft, at 500 acres per hour, would be allowed 100 operational hours to treat 50,000 acres; two C aircraft, at 1000 acres per hour (2 x 500), would be allowed 50 operational hours; and four C aircraft, at 2000 acres per hour (4 x 500), would be allowed 25 operational hours.

3. If, during an operational day, the COR suspends operations due to wind or other reasons, and then clears the aircraft to continue operations later in the day, the operational hours charged for that day will be for the total hours (to the last full half hour) used during those operating periods.

4. On an operational day when all aircraft on the program cannot operate for reasons beyond the control of the Contractor, a proportional adjustment will be made in the operational hours charged for that day. Such conditions would include (a) when one or more aircraft are grounded due to guidance failures, or (b) when one or more aircraft are grounded due to fog or poor visibility in their areas while others can operate. Example: If only two aircraft on a four aircraft contract can operate, the operational hours charged will be one-half of those used on that day.

5. When the contract acreage is increased to exceed 100 percent, the operational hours allowed to complete the program will be increased proportionately.

J. Areas Not to be Treated

1. Areas not to be treated will be designated by the COR.

2. The Contractor shall conduct pre-application reconnaissance flights to ensure that pilots are familiar with program area boundaries, buffer zones, and any other areas that are not to be treated as designated by the COR. Each pilot will be briefed thoroughly and every effort must be exerted to avoid treating such areas..

3. All applications MUST and WILL BE conducted in a manner consistent with the pesticide labeling and requirements specific to the state(s) that operations will be conducted.

K. Performance Standards for Responsible Contractors

Upon completion of each contract, the COR will submit to the CO a Contractor Performance Evaluation Report, based on the following elements:

1. Obtaining the necessary FAA and State Clearances, including certification as an applicator of restricted-use pesticides (certified pesticide applicator) when required, for all pilots and aircraft prior to the starting date. Contractor's compliance in a timely manner with all FAA regulations for maintenance and overhaul, all FAA airworthiness directives, and other applicable directives in force.

2. Pilots obtaining the proper certification for agricultural flying prior to the starting date.

3. Strict adherence to all EPA- and State-approved label instructions for chemical and biological insecticides and compliance with all applicable Federal, State and local environmental laws and regulations in performance of the contract.

4. Attitude of Contractor and contractor's personnel and their cooperation in following instructions, based on contract specifications.

5. Contractor's personnel reporting to work on time daily and remaining on the job until officially released.

6. Contractor reporting on date as directed and providing all required equipment, personnel, and facilities.

7. All equipment meeting contract requirements.

8. Avoiding repeated delays caused by malfunction of equipment or delays in loading between trips which affect the total overall length of time in performing the contract.

9. The contractor's aircraft safety program. The utilization and fostering of good safety habits and attitudes in their employees.

10. Airport Selection: To select the airport(s) to be used and make the necessary arrangements with proper authority for:

a. Use of each airport;

b. Payment of any fees charged for its use;

c. Payment for repairs or damages that result from the contractor's aircraft, equipment, or contamination from insecticide;

d. Immediate removal of all aircraft and equipment from the airport(s), after the program is completed, unless other satisfactory arrangements are made with the airport authorities;

e. Maintaining the areas used by the Contractor in a clean and orderly fashion during their use and cleanup after use to the satisfaction of the COR.

11. Claims for damages brought against the Contractor concerning aerial application or any other operations have been addressed in a fair and timely manner.

12. All required action has been taken for any pesticide spillage with regard to notification and cleanup.

13. All operational guidelines were followed.

L. Height of Flight

The height of flight for each Category aircraft on each program will be specified by the COR.

M. Liabilities of Contractor and Government

The Government will not assume any responsibility whatsoever for loss or damage of equipment owned or operated by the Contractor, his agents, or employees or subcontractor or for the injury to or death of the Contractor, his agents or employees or subcontractor. The Contractor will be responsible for any negligent or wrongful acts or omissions of the Contractor, his employees, agents or subcontractors and employees or agents of the subcontractor(s) incident to the performance of this contract. The Contractor will hold and save the Government, its officers, and employees harmless from all liability for any death or damage to all persons (other than the liability of the Government to Agriculture employees directly engaged in performing work under this contract as provided under the Federal Employee's Compensation Act) or to real or personal property, including negligent use of spray material, which results from the operation of, or incident to, equipment furnished by the Contractor, or otherwise incident to performance of the contract. However, the Contractor will not be responsible for any negligent or wrongful acts or omissions of the U.S. Department of Agriculture, its employees, the U.S. Department of Agriculture's cooperators, or their employees.

N. Evaluation Factors for Award

Offers will be evaluated on the basis of technical qualifications, which will include performance history as well as price. The importance of the technical evaluation in any given solicitation will be governed by the environmental sensitivity of the area to be treated, and will be identified in the solicitation.

SECTION II

CONTRACTOR RESPONSIBILITY

A. Aircraft and Application Systems

The Contractor shall provide the required number of aircraft with the following:

1. A pesticide dispersal system that has been cleaned thoroughly inside. All hoses shall be in good condition and shall be a chemical resistant type.

2. Leak proof pesticide tank(s) and spray system of corrosion resistant materials. Contractors are cautioned that pesticide may loosen some sealants and plug the spraying system. Sealants should be tested before use.

a. The tank(s) in each aircraft shall be installed so that the tank(s) will empty in flight and assure full flow to the pump. Sight gauges or other means shall be provided to determine the quantity in each tank.

b. A drain valve(s) shall be installed at the low point(s) on the spray system to facilitate the complete draining of all components (tanks, pump, plumbing, and spray booms) to recover unused pesticide while the aircraft is parked.

3. A pump that will provide the required flow rate during spraying operations to assure uniform flow and proper functioning of the nozzles.

a. For ULV spraying systems with a pumping capacity that exceeds the discharge calibration rate shall have the bypass flow return to the tank bottom in a manner that prevents aeration and/or foaming of the spray formulation. Pumps utilizing hydraulic drive or other variable speed drives are not required to have this bypass, provided the pump speed is set to provide only the required pressure and the system three-way valve is used for on/off control at full throw position. Any bypass normally used to circulate materials other than for ULV will be closed for ULV spraying.

b. For suspensions and all formulations requiring agitation, a pressure agitation system is required.

4. The spray boom shall be equipped with the quantity and type of spray nozzles specified. The outermost nozzles (left and right sides) shall be equidistant from the aircraft centerline and the distance between the two must not exceed 3/4 of the overall wingspan measurement. For helicopters, the outermost nozzles must not exceed 3/4 the rotor span. Longer spray booms are acceptable provided they are modified in accordance with the sketch shown on attachment 5 to prevent the entrapment of air in the portion beyond the outermost nozzle. For both fixed wing and helicopters, PPQ will accept the outer most nozzle between 60% and 75% of the wing span/rotor span. Fixed wing aircraft that are not equipped with a drop type spray boom may require drop nozzles in the center section to prevent spray from collecting on the tail wheel assembly and horizontal stabilizer and position the spray tips into smoother air.

5. A positive on/off system that will prevent dribble from the nozzles.

6. A positive emergency shutoff valve between the tank(s) and the pump, as close to the tank(s) as possible. This valve shall be controllable from the cockpit which will minimize inadvertent loss of pesticide due to broken lines or other spray system malfunctions (see Section IV, Paragraph J).

7. Bleed lines in any point that may trap air on the pressure side of the spraying system.

8. An operational pressure gauge with a minimum operating range of zero to 60 psi and a maximum of zero to 100 psi visible to the pilot for monitoring boom pressure.
9. A 50-mesh in-line screen between the pump and the boom, unless otherwise specified, and nozzle screens as specified by the nozzle manufacturer.

10. Nozzle tip type and size shall be as follows:

a. Fixed wing aircraft - The type and size is indicated on page 3 of this Prospectus.

b. Helicopter - The type and size will be specified in the solicitation.

c. Provisions shall be made on all aircraft so that nozzle direction can be changed from 45 degrees down and forward to straight back when it is necessary to change droplet size.

d. All nozzles not in use shall be removed and the openings plugged.

e. Nozzle tips for all pesticides shall be made of stainless steel. (Brass is not acceptable because of its corrosion susceptibility to certain chemicals).

f. Operating pressure will be 40 psi unless otherwise specified by the COR.

B. Formation Flying

1. When aircraft are to be flown in formation, they must be capable of operating at the same speed and swath spacing. Pilots must have formation flying experience.

2. When formation flying is agreed upon by the COR and the Contractor's Representative (CR), each Category A or B aircraft pilot will maintain a trail position no more than 1,500 feet from the lead aircraft. Each pilot of all other Category aircraft will maintain a trail position no more than 1,000 feet from the lead aircraft.

C. Calibration and Swath Checks

To assure proper coverage and uniformity of application, calibration and swath checks will be conducted when there is a reason to believe that the spraying system does not produce the desired flow rate or a uniform pattern. Swath checks will be conducted prior to program start on all aircraft that are not listed on the aircraft category sheet. An overall swath width will be determined for each model aircraft and an effective swath width equal to 75 percent of the overall will be assigned.

D. Observation Aircraft

When observation aircraft are specified in the solicitation, each will be four-place and have a rated cruising speed of 160 mph for category A and B application aircraft, 150 mph for category C application aircraft, and 130 mph for category D and all helicopter application aircraft. It shall be equipped with a device to record flight hours, and be capable of safe operation from the airport(s) used by the spraying aircraft. It shall be in good mechanical condition with a current 100-hour inspection. To prevent possible program delay, aircraft with less than the projected contract operational hours remaining on the 100-hour inspection will not be accepted at the initial acceptance inspection. The aircraft will not qualify for acceptance when its engine time reaches manufacturer's recommended overhaul time. New or overhauled engines shall have been flown a minimum of 5 hours before use on a program. Should a 100-hour inspection be performed on the aircraft during the course of the program, the Contractor shall test fly the aircraft prior to carrying Government personnel. Current logbooks shall be provided to verify aircraft and engine time and inspections. The aircraft engine shall be equipped with a standard muffler. Each observation aircraft must be equipped with an intercom system and headsets for the pilot and the observer. Each observation aircraft and its pilot will be available at the airport specified by the COR throughout the period of the contract to acquaint pilots with specific areas to be sprayed and at the request of the COR, to carry Government personnel to monitor spraying operations or to serve as a visual observation aircraft. The Government will pay the Contractor only for flight hours requested and approved by the COR.

E. Congested Areas

For all flights over congested areas, the Contractor must comply with FAR Part 137.51 and 137.53.

F. Ultra-Low-Volume Aerial Application

1. To minimize drift and volatilization, no ULV sprays shall be applied when any of the following conditions exist in the spray area: wind velocity exceeds 10 miles per hour (unless lower wind speed required under State law); rain is falling or is imminent; weather is foggy; normally when temperatures exceed 80 degrees F; air turbulence that could seriously affect the normal spray pattern; temperature inversions that could lead to off-site movement of spray.

2. No application when foliage is wet.

3. No application within 500 feet of crops for which it is not labeled, or to any crop for which no tolerance has been established, unless an exemption under Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) has been granted.

4. Application aircraft will fly at a median altitude of 1 to 1.5 times the wingspan of the aircraft whenever possible.

G. Radios

Each aircraft must be equipped with a fully operative two-way VHF radio capable of transmitting and receiving on 122.925 MHz for communications with program personnel or other means of radio communications approved by the COR.

H. Passengers

1. No passengers will be carried in application aircraft. Personnel will be limited to the necessary crew members.

2. No passengers will be carried in the observation aircraft without the approval of the COR. This approval must be recorded in the program log.

I. Aircraft Guidance

NOTE TO ALL OFFERORS: Not all Differentially Corrected Global Positioning Systems (DGPS) are approved for use on Plant Protection and Quarantine Programs. Before submitting an offer, contact Aircraft and Equipment Operations at (956) 580-7270 for a list of approved systems.

a. Each application aircraft shall be equipped with a Differentially Corrected Global Positioning System (DGPS) that has software designed for parallel offset in increments equal to the assigned swath width of the application aircraft or the formation of aircraft. The system shall be sufficiently sensitive to provide immediate deviation indications and sufficiently accurate to keep the aircraft on the desired flight path plus or minus 3 feet. Systems that do not provide course deviation updates at two second intervals or less will not be accepted. The system must display to the pilot a warning when differential correction is lost. A course deviation indicator (CDI) or a course deviation light bar must be installed on the aircraft and in a location that will allow the pilot to view the indicator with direct or peripheral vision without looking down.

b. Differential correction may be provided by a portable differential station, FM radio fixed towers, satellite, Coast Guard, or other acceptable methods. However, the differential signal must cover the entire project area. In fringe areas from the generated signal, approved repeaters may be used provided the repeater system has been tested and verified that the system is operational and differential correction is being retransmitted to the application aircraft prior to start of the program.

When electronic guidance is furnished by the Contractor:

1. The Contractor shall provide all equipment, materials, personnel, and services required for the system to be used. This guidance equipment shall meet all contract requirements and be maintained in an operational state for the duration of the contract.

2. When precision electronic guidance and flight data logging are not a program requirements, the following flagging methods are acceptable:

Flagging by individual Mirrors
Kytoons High powered "Q" lights

Other methods of flagging must be approved by the COR.

FREE FLYING WILL NOT BE ALLOWED

J. Recording Equipment

The solicitation will specify if flight data logging is required and if the recording equipment will be furnished by the Government or by the Contractor. If the recording equipment is furnished by the Government, the Contractor MAY be required to install the equipment, at the option of the Government.

When recording equipment is required, it shall be compatible with the guidance system being used and have software that will allow the flight log to be downloaded into a computer for review and Have a memory system capable of storing a minimum of 3 hours of continuous flight log data with the logging rate set at one second intervals. The flight log must show the entire flight of the aircraft from take off to landing and differentiate between spray on and spray off when viewed on the computer monitor. The software must have the capability to zoom to any portion of the flight for viewing in greater detail and a method to determine distance between each flight lane or any two points on the monitor screen. The system must be able to calculate and show total acres treated during the flight. The software must be capable of replaying the entire flight in slow motion and stop and restart the replay at any point during the flight. The software must be compatible with dot matrix printers and/or color printers and differentiate between spray on and spray off on the printed copy.
Some programs may require that the recording software be compatible with Global Information Systems such as MapInfo or others.

Upon completion of the contract, the Contractor will promptly return all Government-furnished equipment to the COR. Reference Appendix 3, Contract Clause 52.245-2, Government property.

K. Certification - State/Federal

The Contractor must be certified by the FAA, and comply with all applicable FAA regulations and applicable regulations of the state in which operations will be conducted.

1. Immediately upon award of a contract, the Contractor shall contact the appropriate office to identify all state requirements for aircraft and pilot certifications. Insurance and/or other requirements, including pesticide applicator certification that apply, must be in effect prior to starting operations.

2. Documents which shall be available at the reporting airport include all necessary documents to complete the "**AIRCRAFT AND PILOT QUALIFICATION ACCEPTANCE REPORT**", Attachment 4, which include but not necessarily limited to: The FAA Agricultural Aircraft Operators Certificate, Aircraft Registration and Airworthiness Certificate, Aircraft and Engine Log Books, Pilot Certificate, Medical Certificate, Flight Review, State Pesticide Applicators License, and proof of insurance. Documents provided for proof of insurance shall clearly state:

a. The aircraft registration number.

b. The period of coverage.

c. Limits of liability.

L. Personnel

The Contractor shall provide the following:

1. A contractor's representative (CR) at each airport the Contractor is using. The CR shall have full authority to make decisions for the Contractor and direct the contractor's operations. The CR shall be stationed at the airport for the duration of the contract and shall be available for consultation at all times as requested by the COR

If the CR is fully qualified, the CR may operate the observation aircraft when an observation aircraft is required on the program. The CR will not be permitted to operate a spraying aircraft except when authorized by the COR.

2. A qualified Commercial or Airline Transport Pilot with a current First or Second Class FAA medical certificate for each spraying aircraft who has:

a. More than 1,000 hours as pilot-in-command (PIC), and

b. More than 100 hours pilot-in-command aerial application experience.

c. On the Gypsy Moth program, more than 25 hours of forest spraying experience.

d. For operations over congested areas, 25 hours of pilot-in command flight time in the make and basic model of the aircraft, at least 10 hours of which must have been acquired within the preceding 12 calendar months and 100 hours of flight experience as PIC in dispensing of materials or chemical.

3. A copilot for each Category A and B aircraft who shall have a Commercial or Airline Transport Pilot certificate with a current First or Second Class FAA medical certificate. No flights will be permitted without a qualified copilot on board.

4. A qualified Commercial or Airline Transport Pilot with a current First or Second Class FAA medical certificate for each observation aircraft who has:

a. More than 1,000 hours PIC time, and

b. more than 50 hours aerial application and/or 50 hours of aerial application observation experience.

5. Personnel experienced in the use of the Guidance System(s) furnished.

6. Personnel to mix pesticide when mixing equipment is required in the solicitation.

7. Personnel to load and service the aircraft.

8. When required, a person or persons certified as an applicator of restricted use pesticides (certified pesticide applicator) by the state in which the operations will be conducted.

M. Additional Aircraft and Pilots

Each solicitation will specify the category and the number of aircraft required for the program. Should the Contractor wish to provide additional aircraft and pilot(s) that meet all contract requirements, he may do so provided it is agreeable with the COR. No adjustment will be made in the contract price for providing additional aircraft beyond the number and category of aircraft required by the contract or in the number of gallons or acres to be sprayed.

N. Withdrawal, Substitution of Aircraft or Personnel

The Contractor shall notify the COR in writing prior to any withdrawal or substitution of aircraft, pilot or copilot.

O. Airport Selection

The Contractor shall select the airport(s) to be used and make the necessary arrangements with the proper authority for:

1. Use of each airport.

2. Payment of any fees charged for its use.

3. Payment for repairs or damages that result from the contractor's aircraft, equipment, or contamination from pesticide.

4. Timely removal of all aircraft and equipment from the airport(s), after the program is completed unless other satisfactory arrangements are made with the airport authorities.

5. Maintaining the areas used by the Contractor in a clean and orderly fashion during their use and cleanup after use, to the satisfaction of the COR.

Within 3 calendar days after receipt of award, the Contractor and COR shall agree on which airport will be used at the beginning of the program. That airport will then be designated as the reporting airport.

Operations will be conducted from only one airport at a time, unless otherwise authorized or directed by the COR.

P. Transport of Pesticide

The Contractor shall provide personnel, safety equipment, and transportation for the pesticide from the storage site(s) to the aircraft loading site on each airport and deliver empty pesticide containers to the site(s) designated by the COR.

Q. Pesticide Mixing Equipment

The Contractor shall provide pesticide mixing equipment, when specified in the solicitation. The capacity of the mixing equipment shall be sufficient to prevent delays in applicator aircraft flight schedules.

Mixing equipment basic design shall include:

1. Interchangeable strainer screens.
2. Internal agitator for mixing the formulation.
3. A lowest point drain to completely empty the tank.

4. Opening on the top side to allow for thorough cleaning and inspection of each compartment.

Specific requirements for various formulations will be specified for each contract (i.e. hydraulic or paddle agitation, etc).

The Contractor shall make provisions to measure each batch of pesticide formulation mixed, by means of a calibrated measuring stick, sight gauge, or other acceptable means. An engine-driven centrifugal pump shall be attached to each tank to thoroughly mix and circulate the pesticide. This pump may be used to add diluent to the tank through fitting and valve combinations. It may also be used to load the aircraft. All equipment and personnel must be in compliance with state/federal safety requirements.

NOTE: No mixing, loading, or unloading shall be conducted in areas where an accidental spill could contaminate a stream or other body of water.

R. Water Transport for Mixing Pesticide

When water is required for mixing formulations, the Contractor shall provide water and clean tankers to transport water for mixing the pesticide in sufficient quantities to insure uninterrupted aircraft operation. Each tanker shall be equipped with a pump of at least 50 gallons per minute capacity so arranged that it can be used to load or unload the tank. Water for mixing pesticide may be drawn from city water supplies, wells, farm tanks, streams, or lakes, provided it is clean. The Contractor will assure all water used in mixes of Sevin XLR Plus shall be a pH of 7 or less. The COR will decide whether questionable water may be used and his decision shall be final.

S. Loading Equipment

When specified in the solicitation, the Contractor shall provide complete aircraft loading equipment that includes:

1. Pumps capable of loading each aircraft at a minimum rate of 50 gallons per minute. The mixing pump can also be used for this purpose. The solicitation will specify how the pesticide will be delivered and whether it will require mixing. The pumping equipment must be adaptable to the containers from which the aircraft will be loaded.

2. Liquid flow meters that are accurately calibrated and compatible with the pumping equipment and agricultural chemicals used. For Category A and B operations only, each metering unit shall be equipped with an air elimination device. Calibration accuracy shall be tested by a local government weights and measures agency or demonstrated to the COR by pumping the pesticide into an accurately marked container of sufficient size. In the event abrasive formulations are used, meter calibration checks will be conducted at the discretion of the COR. Meters showing a consistent error rate can be used provided a corrective factor is applied and recorded as such. Meters with erratic test readings are not acceptable.

3. Strainer mesh equivalent to the size used in the aircraft system.

4. Loading Nozzle. Positive shutoff, quick-disconnect couplings, valves, or attachments so installed as to eliminate loss of pesticide during loading or uncoupling.

5. All hoses shall be in good condition and shall be chemical resistant.

T. Responsibility for Pesticides

The Contractor shall be responsible for all pesticide and materials accepted from the Government until properly applied on assigned areas.

U. Insurance

The Government requires the Contractor to maintain aircraft liability insurance coverage on all aircraft in the amounts required by the states in which operations are conducted, but not less than:

$200,000 bodily injury, one person
$500,000 bodily injury, more than one person
$200,000 property damage, per accident

V. Wage Determinations

The Contractor will be required, under the Service Contract Act of 1965, to pay the minimum hourly wage and fringe benefits to the class of service employees that will be used on the job and who are covered under the Department of Labor wage determinations. (See Attachment 2.) No increase in contract price will be allowed or authorized as a result of payment of wage rates in excess of those listed in attached wage determination.

SECTION III
GOVERNMENT RESPONSIBILITY

The Government will:

A. Maps, Information, Briefing

Provide maps, information and briefing for the pilot(s) of the areas to be treated.

B. Pesticides

Provide pesticide (and special diluents or stickers when required, excluding water) delivered to the storage site(s) listed in the solicitation

Reference Appendix 3, Contract clause 52.245-2 Government property.

C. Pesticide Spills

Provide personnel, safety equipment, tools, and materials needed to clean up a pesticide spill.

If a spill occurs after the pesticide has been delivered into the contractor's aircraft, the Government will take action to contain and clean up the spill. However, the Contractor will be liable for all damages and costs incurred.

D. Record Keeping Requirements

Provide Federal Register, 7 CFR part 110, (Record keeping Requirements for Certified Applicators of Federally Restricted Use Pesticides) to the Contractor for their review and information.

E. Daily Flight Record (PPQ Form 8O2)

Provide and maintain an accurate Daily Flight Record and furnish the Contractor with a copy.

F. Payment for Gallons/lbs Applied

Pay the Contractor for each gallon/lb of pesticide acceptably applied, based on the flight records and partial delivery receipts prepared by the Government. Payment will be made in accordance with Federal Acquisition Regulation 52.232-1, providing the following conditions are met:

1. Invoices shall show the total number of gallons/lbs of pesticide acceptably applied with inclusive date for the period covered.

2. The Daily Flight Record has been signed by the CR.

3. Invoices shall not be submitted for less than a one-week period, except upon completion of the contract. The Contractor shall coordinate with the COR when partial payments are desired.

4. Invoices shall be forwarded to the billing address shown on the Purchase Order or Block 12 of the Standard Form 26 (Award/Contract).

Failure to comply with the above conditions may result in delay of payment.

G. Payment for Observation Aircraft

Pay the Contractor an hourly rate, computed to the nearest tenth of an hour, for the use of the observation aircraft when required by the COR. Such payment will be at the rate of $150 per hour for a 160 mph aircraft, $140 per hour for a 150 mph aircraft, and $130 per hour for a 130 mph aircraft. If a faster observation aircraft is furnished when a slower observation aircraft was requested, payment will be at the rate of the requested speed. The Contractor will be paid a minimum of 1-1/2 hours of flight time for each operational day. A record of ordered flight time, based on flight recorder readings, will be kept on a Daily Flight Record by the Government.

SECTION IV
CONTRACT ADMINISTRATION

A. Rejection of Aircraft/Application Systems

The Government may reject at any time any aircraft and/or application system deemed to be unsafe or which does not comply with contract specifications. Qualifying tests of aircraft may be conducted by the Government to assure that contract requirements are met. All operational costs incurred in conducting these tests will be borne by the Contractor except that the Government will furnish the pesticide used for swath checks.

B. Rejection of Electronic Guidance Systems

The accuracy of each electronic guidance and/or flight data logging system must be verified by the COR before acceptance on the program.

The Government may reject at any time, the electronic radio guidance system or any component which does not comply with the contract specifications.

C. Rejection of Personnel

The Government may reject at any time the CR or any pilot found unqualified or incompetent, who operates his aircraft in a negligent manner, or fails to perform satisfactorily.

D. Spray Boom Timer

The Government reserves the right to require the Contractor to install Government-furnished timing devices on the boom or boom line of each application aircraft. Reference Attachment 3, Section I, Contract Clause 52.245-2 Government Property.

E. Sequence of Application - Stopping, Starting

The COR will determine the time and sequence of treating individual areas and the time to start and stop application each day. If the COR is not in the treatment area and is unaware of deteriorating weather conditions, the pilot(s) are responsible to voluntarily stop application to avoid possible liquidated damages.

F. Program Progress - Additional Aircraft

The COR will determine whether program progress is satisfactory. If the Contractor has not completed applying 40 percent of the gallons/lbs of pesticide within 40 percent of the operational hours allowed, he shall furnish additional aircraft within 3 calendar days when required by the CO. Such aircraft shall be of the same category as those specified in the solicitation; shall meet all contract requirements, including qualified pilot(s) to operate the aircraft; and shall be fully operational within 1 day after reporting. No adjustment will be made in the contract price for furnishing such additional aircraft.

G. Liquidated Damages

All charges assessed in the following subparagraphs shall be paid to the Government as fixed, agreed, and liquidated damages, not as a penalty.

1. Should the Contractor delay the program for any reason, a charge or deduction from payment of $1,000 per day for each aircraft will be assessed to the Contractor.

The rates above will be charged for:

a. Each aircraft that fails to report on the official reporting date.

b. Each aircraft that fails to begin treatment on the official starting date, provided it is an operational day, and for each operational day thereafter until it begins treatment.

c. Each aircraft that fails to treat on an operational day and each operational day thereafter, until it begins treatment. However, when an aircraft fails to treat for more than one reason on a day for which liquidated damages are charged, no more than the daily liquidated damage rate for that aircraft will be charged for that day.

d. Each additional aircraft that fails to report within 3 calendar days, when requested, and qualify within 1 day after reporting, such charges will begin after the fourth day and continue until it is operational.

2. Should the Contractor fail to complete the program within the specified number of operational hours, he will be charged an hourly rate equal to 1/6 of the daily liquidated damage rate shown above for each aircraft on the program (including the additional aircraft when required) for each full additional operational hour needed to complete the program.

H. Delays Beyond Control of Contractor

The Contractor will not be liable for delays or failures caused by the Government, or reasons beyond the control of the Contractor.

I. Cost of Pesticide Jettisoned

An estimate of the amount of pesticide that is jettisoned for any reason, will be made by the COR and the cost thereof deducted from any amounts due the Contractor.

J. Cost of Pesticide Lost

An estimate will be made by the COR of the amount of pesticide lost due to spillage, overflowing of tanks, leakage of tanks, or loading devices, due to the contractor's personnel, and the cost thereof deducted from any amounts due the Contractor under this contract.

ATTACHMENT 1

CROP PROTECTION

Grasshopper/Mormon Cricket Program

Under the Crop Protection Program for grasshopper/mormon cricket control, full service contracts are contemplated. The Contractor shall provide all aircraft, pesticide, diluents including water with a pH of 7 or less, personnel, facilitating equipment and service. In this crop protection phase, a chemical treatment will be applied on range land adjacent to cropland.

Service will be requested by the COR on an as-needed basis. The Contractor shall report within 72 hours of notification by the COR. The COR will coordinate treatment areas to allow for efficient use of the contractor's resources. The type of pesticide will be determined by the COR at the time service is requested. The COR will inform the Contractor a minimum of 72 hours in advance of any changes in pesticide and/or diluents.

A job is defined as the total gallons or lbs requested at one time to be applied within the treatment location. Additional work is considered a new job. The treatment location is defined as the geographic area identified in the solicitation (frequently a county is the geographic area).

The Contractor must make satisfactory progress in completing the treatment service as determined by the COR.

In the event program requirements increase, the Government reserves the right to require additional aircraft of the same category. Up to 100 percent additional aircraft could be required to establish adequate crop protection. The Contractor will have the opportunity to supply the additional aircraft at the same price per gallon or lb. If additional aircraft cannot be supplied, the Government reserves the right to bring another Contractor into the same area.

The Government may reject an offer as nonresponsive if it is materially unbalanced as to prices for the various items and quantities. An offer is unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

Since this requirement is for the crop protection phase of the grasshopper/mormon cricket control program, under a full service contract, the current Prospectus for aerial application is changed as follows:

Section I C. Gallons/lbs Plus or Minus 25 Percent

Percentage references are changed to read plus 100 percent or minus 100 percent.

Section I H. Reporting and Starting

Reporting and starting dates will be determined by the COR rather than the Contracting Officer. The 3 day advance notice is deleted and will be as stated in the individual solicitation, or as mutually agreed upon by the COR and Contractor.

Section I I. Operational Hours Allowed to Complete Program

Item 2 is deleted.

Section II S. Loading Equipment

In Item 1, delete the third sentence "The solicitation will specify how the pesticide will be delivered and whether it will require mixing."

Section II T. Responsibility for Pesticides

Revised to read "The Contractor shall furnish all pesticide and diluents, including water with a pH of 7 or less, as well as removal and disposal of any pesticide and diluent containers used on the program."

Add the following:

The following pesticides shall be used as required by the COR:

1. Malathion, ULV Concentrate (0,0-Dimethyl Phosphorodithioate of Diethyl Mercaptosuccinate) containing a minimum of 91 percent active ingredients, having inherent chemical and physical properties that make possible its direct use without additives.

2. Sevin XLR Plus carbaryl, (1-Naphthyl Methylcarbamate)

3. Dimilin 2L, diflubenzuron, N-[[(4-chloropheny)amino]carbonyl]-2, 6-difluoro benzamide

4. Carbaryl Bran Bait

The pesticides furnished under any contract awarded as a result of this solicitation shall be registered and labelled in compliance with the Federal Pesticide, Fungicide, and Rodenticide Act of 1947 and the Federal Environmental Pesticide Control Act of 1972, as applicable.

Section III B. Pesticides -- Delete

Section IV J. Cost of Pesticide Lost -- Delete

REFERENCED CONTRACT CLAUSES

Contract clauses are incorporated herein by reference and are made a part of this contract with the same force and effect as those set forth in full text. All of the references are from the Federal Acquisition Regulation (48 CFR Chapter I) unless otherwise indicated. The month and year of each clause applicable to this contract are shown in parenthesis following the clause title. Contractors are CAUTIONED that they should not alter any of the clauses listed below. The complete text of any or all of the clauses referenced herein may be obtained by submitting a request, identifying the Prospectus number, to the Department of Agriculture office issuing the Prospectus. Complete copies of the FAR in loose-leaf or CFR form may be purchased from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. (Clauses that deviate from the text as shown in the FAR shall be annotated with DEVIATION after the title and date.)

CLAUSE REFERENCE	TITLE and DATE
SECTION E - INSPECTION AND ACCEPTANCE	
52.246-4	INSPECTION OF SERVICES - FIXED PRICE (AUG 96)
52.246-16	RESPONSIBILITY FOR SUPPLIES (APR 84)
SECTION F - DELIVERIES OR PERFORMANCE	
52.211-11	LIQUIDATED DAMAGES - SUPPLIES, SERVICES OR RESEARCH AND DEVELOPMENT (Sept 2000)
SECTION I - CONTRACT CLAUSES	
52.202-1	DEFINITIONS (MAY 01)
52.203-3	GRATUITIES (APR 84)
52.203-5	COVENANT AGAINST CONTINGENT FEES (APR 84)
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 95)
52.203-7	ANTI-KICKBACK PROCEDURES (JUL 95)
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL ACTIVITY (JAN 97)
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED OR PROPOSED FOR DEBARMENT (JUL 95)
52.215-2	AUDIT AND RECORDS - NEGOTIATION (JUNE 99)
52.216-21	REQUIREMENTS (OCT 95) (CROP PROTECTION ONLY)
52.219-6	NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (JUL 96)
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)
52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 97)
52.222-3	CONVICT LABOR (AUG 96)
52.222-4	CONTRACT WORK HOURS AND SAFETY STANDARDS ACT-OVERTIME COMPENSATION (SEPT 2000)
52.222-26	EQUAL OPPORTUNITY (FEB 99)
52.222-35	AFFIRMATIVE ACTION FOR SPECIAL DISABLED AND VIETNAM VETERANS (APR 98)
52.222-37	EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (JAN 99)
52.222-41	SERVICE CONTRACT ACT OF 1965, AS AMENDED (MAY 89)
52.222-44	FAIR LABOR STANDARDS ACT AND SERVICE CONTRACT ACT PRICE ADJUSTMENT (MAY 89)
52.223-3	HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 97)
52.223-6	DRUG-FREE WORKPLACE (JAN 97)
52.227-1	AUTHORIZATION AND CONSENT (JUL 95) [ ] ALT [I ALT II
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 96)
52.229-3	FEDERAL, STATE, AND LOCAL TAXES (JAN 91)
52.229-5	TAXES-CONTRACTS PERFORMED IN U.S. POSSESSIONS OR PUERTO RICO (APR 84)
52.232-1	PAYMENTS (APR 84)
52.232-8	DISCOUNTS FOR PROMPT PAYMENTS (MAY 97)
52.232-11	EXTRAS (APR 84)
52.232-17	INTEREST (JUN 96)
52.232-23	ASSIGNMENT OF CLAIMS (JAN 86)
52.232-25	PROMPT PAYMENT (MAY 01)
52.233-1	DISPUTES (DEC 98)
52.233-3	PROTEST AFTER AWARD (AUG 96)
52.236-7	PERMITS AND RESPONSIBILITIES (NOV 91)
52.243-1	CHANGES - FIXED PRICE (SUPPLY) (AUG 87) [ ] ALT I and ALT II (APR 1984)

52.245-2	GOVERNMENT PROPERTY (FIXED-PRICE) (DEC 89) [ ] ALT I (APR 84)
52.246-25	LIMITATION OF LIABILITY SERVICES (FEB 97)
52.249-4	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (SERVICES) (SHORT FORM) (APR 84)
52.249-8	DEFAULT (SUPPLY AND SERVICE) (APR 84)

APPLICABLE TO CONTRACTS OVER $100,000

52.203-12	LIMITATION OF PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 97)

APPLICABLE TO CONTRACTS OVER $500,000

52.230-1	COST ACCOUNTING STANDARDS NOTICES & CERTIFICATION (JUNE 2000)
52.230-2	COST ACCOUNTING STANDARDS (APR 98)
52.230-3	DISCLOSURE AND CONSISTENCY OF COST ACCOUNTING PRACTICES (APR 98)
52.230-4	CONSISTENCY IN COST ACCOUNTING PRACTICES (AUG 92)
52.230-6	ADMINISTRATION OF COST ACCOUNTING STANDARDS (NOV 99)

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

APPLICABLE TO NEGOTIATED SOLICITATIONS

52.215-5	FACSIMILE PROPOSALS (OCT 97)
52.232-8	DISCOUNTS FOR PROMPT PAYMENT (MAY 97)
52.233-3	PROTEST AFTER AWARD (AUG 96)

SIZE-STANDARD AND NAICS CODE INFORMATION (NOV 96)

The North American Industry Classification System and size standard describing the products and/or services to be acquired under this solicitation are listed below.

Contract line item:____All_____

NAICS Code:_____481212_____

Size standard:_____No more than 1,500 employees.

(AGAR 452.219-70)

SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO) or the General Services Administration Board of Contract Appeals (GSBCA), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Robert Crowther, USDA, APHIS, FSO, Contracting Self Managing Team, Butler Square, Fifth Floor, 100 North Sixth Street, Minneapolis, MN 55403.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO. (FAR 52.233-2)

STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (MAY 1989)

In compliance with the Service Contract Act of 1965,m as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332. THIS STATEMENT IS FOR INFORMATION ONLY; IT IS NOT A WAGE DETERMINATION.

Employee Class	Monetary Wage	Fringe Benefits
Pilot	$20.64	$2.02 per hour
Aircraft Mechanic Journeyman	$18.78	$2.02 per hour
Aircraft Mechanic Junior	$18.78	$2.02 per hour
Aircraft Mechanic Helper/Cleaner	$11.26	$2.02 per hour
Laborer	$11.26	$2.02 per hour

(FAR 52.222-42)

Telegram, mailgram, and facsimile bids are authorized. Western Union transmission of message via telephone is not acceptable. Offerors must mail immediately written confirmation of any offer submitted by telegram or mailgram. The undersigned agrees to furnish any and all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified herein.

ATTACHMENT 6

WHEAT BRAN APPLICATION ONLY

Equipment Modification, Swath Width Determination, and Calibration for Aerial application of Bran Bait with Single-Engine Fixed Wing Aircraft.

Under certain conditions, bran bait is the best choice for controlling grasshoppers. Bait is commonly applied by ground equipment, but in many cases, rough terrain and/or extensive acreage make application by air necessary. Until recently, the acceptance of aerial application of bran bait has been hindered by the common occurrence of nonuniform application and the difficulty in calibrating the equipment accurately. Both problems are caused by uneven flow of bait from the hopper of the aircraft to the spreader.

This uneven flow usually results from what is commonly referred to as "bridging", the formation of both a cavity in the lower portion of the bait load and an overlying bridge of bait. As bait flows from the bottom of the hopper to the spreader, the load in the hopper settles. Because the particles of bait are flat, they tend to overlap, layer, and lock, and together to form a bridge. If the overlying bridge does not break and fall before all of the lower bait is applied, continuous flow of bait will be interrupted and nonuniform application will result.

Equipment Fabrication and Modification

Aerial application of bait requires the use of what are commonly called granular spreaders. These spreaders are used for aerial application of dry solid materials, such as fertilizers, herbicides, and seeds. Several different spreaders are available commercially, and some acceptable homemade types undoubtedly exist. To ensure a uniform application, each type of spreader must be evaluated with the type of aircraft on which it will be used. To date, U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA, APHIS) has evaluated and approved several aircraft and spreaders for aerial application of bran baits (table 1).

Uniform flow of dry bait is a function of several factors, including the slope of the aircraft hopper, the physical shape (flatness) of the bait particles, the size of the opening of the gate seal assembly through which the bran is released form the hopper of the aircraft into the spreader, and the small amount of bait per acre that is usually desired for delivery. All of these factors contribute to bridging in the aircraft hopper, which prevents a consistent and uniform flow of bait to the spreader.

Three inexpensive, simple additions and modifications to the aircraft are required to ensure uniform delivery of bait. A ram air agitation system-consisting of a ram air tube, air agitation tube, and a vent tube air regulator-must be adapted to the aircraft.

Air Agitation Tube

This tube directs air forced from the ram air tube to the inside lower area of the hopper. The moving air is forced up toward the bottom of the bait load and agitates the bait particles to prevent bridging. In addition, the air mixes with the bait particles to allow a uniform flow of material to the spreader. You can build the air agitation tube using Federal Aviation Administration approved pipe and fittings. The pipe size shall have an inside diameter of 1 to 1.5 inches and shall be installed across the entire width of the hopper throat just above the gate opening (figure 2). A series of 1/4inch diameter, equally spaced holes is drilled across the upper side of the pipe and alternately angled to direct airflow to the fore and aft lower portion of the hopper walls. The number of holes can vary, but their accumulated area must not exceed 75 percent of the pipe's inside diameter area. Therefore, a 1 inch diameter pipe should not have more than 12 holes, and a 1.5 inch pipe should not have more than 27 holes. All 1/4 inch holes are covered with window screen to prevent the entry of material into the air agitation tube.

Ram Air Tube

This tube collects and directs forced air from outside the aircraft into the air agitation tube located in the bottom of the aircraft hopper. This supply of forced air can be provided in one of two ways.

1. Insert a pipe through the side opening of the hopper subtank (figure 1) with spray valve removed and position the open end forward at approximately a 45-degree angle to the slipstream to allow for uninterrupted ram air during flight. The opposite end of the air agitation tube inside the hopper must be tightly sealed.

2. Install a pipe tee at the proper location in the agitation tube and insert a pipe through the opening that supplies the pump for spray operations. Position the open end forward to allow for uninterrupted ram air during flight (figure 5&6). When this modification is used, the ends of the air agitation tube inside the hopper must be tightly sealed (figure 6).

Vent Tube Air Flow Regulator

The existing hopper vent tube can be modified easily to function as a flow regulator for the bait. The flow regulator works on the same principle as two holes in the top of an oil can. When fluid is poured out of one hole, the opposite hole serves to prevent a vacuum from building up in the can. In the aircraft system, the hopper opening is similar to the hole in an oil can. The vent tube is similar to the second hole in the oil can, which prevents a vacuum. By simply restricting the amount of air that is allowed to enter the hopper vent tube, one can reduce the speed that bran is delivered through a fixed hopper-gate opening. Very minor changes in the amount of air allowed into the vent tube can cause major changes in the amount of bait delivered.

A sheet metal sleeve is fashioned and attached to the vent tube to the aircraft hopper (figure 3). Other materials of duct tape can be used to produce similar results.

Other Requirements

The aircraft hopper-gate seal must be clean, dry (not sticky), and in good condition across its entire length to prevent an accumulation of material along the seal and edge of the gate when it is opened. An accumulation of bait on the gate seal can prevent uniform distribution into the spreader and, in some cases, can even promote bridging in the hopper. Linkage between the gate and its cockpit control handle must be in good condition or the gate may not stop in the same position each time it is opened. Gate stops are also required to insure that the hopper gate is opened to exactly the same position each time. Screw type stops are preferred.

Seal all openings where the ram air tube enters the subtank of the hopper. Doing this prevents leakage of bait from the aircraft and ensures a sufficient and constant amount of air entering the air agitation tube. Remove all mechanical agitation components, nonstructural baffles, and other nonstructural obstructions from the hopper interior. Any unnecessary object can act as an anchor for the buildup of bait and thus promote bridging.

If present, the side-loader flapper valve inside the hopper should be sealed and covered to reduce protrusions. Doing that prevents dry material from entering the system when used for liquid application. Covering all protrusions reduces the chance of material buildup, which can promote bridging. The hopper interior must be thoroughly clean and dry to prevent the buildup of bait.

Determining Swath Width

The swath width for wheat bran bait applications will differ among types of aircraft. With baits, different types of spreaders on the same type of aircraft can produce different swath widths. Other differences among the aircraft, such as landing gear configuration, automatic flagman equipment, and weight, may also result in different swath widths.

Any combination of aircraft, spreader, and spreader attachments that has not been previously evaluated for swath widths must be determined.

The hopper interior must be completely dry before loading the bait. A proven technique for ensuring this is to fly the aircraft for several minutes with the hopper empty and the hopper gate open.

Load a sufficient amount of bran bait into the hopper to conduct swath evaluations. For determining the swath width, the rate of bait flow (application rate) is unimportant as long as bait being dispensed by the aircraft can be seen in the air by observers from the ground. The hopper gate opening should be set wide enough to make certain that bridging is not occurring. A setting that allows for a gate opening of 1/4-in or more is usually sufficient.

Conduct swath evaluations in a relatively flat area free of obstructions. Collection devices, such as pans, paper plates, or sticky cards, should be placed in a line 200 ft long perpendicular to the planned flightline. Place collection devices at 5-ft intervals along the line.

Conduct all flights to determine swath widths during no-wind conditions or by flying into a wind that does not exceed 5 miles per hour, (mph). The aircraft must be in level flight and at the proper operating speed and altitude for at least 1,000 ft before collection devices. To ensure that bait will hit the collection devices, open the hopper gate at 500 ft before reaching the collectors and leave it open until the aircraft has passed the devices by 1,500 ft.

After each flight, inspect all collection devices and count and record the number of particles in each device. The overall swath width is the distance between the extreme collection devices that caught at least 1 particle of bait. Collection devices in the middle portion of the overall swath will contain many more particles than the devices on either end.

In many cases, the overall swath width ends abruptly in either end and is very obvious. The effective or working swath width (overall swath width minus 10 ft) is the swath width that will be used in the calculations for calibration and during the actual application. At least three good swath-width test flights are recommended.

Calibration

Calibration is simply comparing the amount of material that was applied to a given area for a given period of time during a test flight with what is desired to be applied to that area. Make adjustments in the system until agreement is reached.

After determining the swath width and the ground speed of the aircraft, determine the number of acres that will be treated in a minute. To do this, multiply the ground speed times the swath width and divide by 495 (a constant). For example, 120 mph times an 80 ft-swath divided by 495 equals 19.39 ac/min. By multiplying the acres per minute times the amount of bait desired per acre, you can determine the amount of bait that should be applied in 1 minute. For example, if 1.5 lb of bait per acre is desired, then from the above example, 1.5 times 19.39 ac/min equals 29.09 lb of bait, the amount that should be applied in 1 minute.

For the first flight, the gate opening should be set at 1/4-in. The shank of 1/4-inch drill bit can be used as a gauge. You will need an apparatus to drain and recover wheat bran from the aircraft hopper and a scale to weigh the bait. Weigh the bait to be loaded into the aircraft. Actual weight may vary slightly from that printed on the bag. Use the actual measured weight. Load the hopper with approximately 50 lb of bait plus the amount of bait to be applied in 1 minute to ensure that you will not run out of bait during the calibration flight. If there is no bait left in the hopper after a flight, overapplication was occurring; appropriate adjustments must be made, and the flight must be repeated.

Make all calibration flights crosswind and dispense bait for 1 minute. Flying upwind will increase the rate of application. Use a stopwatch to determine the exact amount of time the hopper gate is open. Timing devices attached to the application system may increase the accuracy.

After the first calibration flight, drain and weigh all bait remaining in the hopper. Make sure bait that may have fallen into the spreader during draining is included. Subtract this weight from the weight loaded. Compare the amount of bait applied to what was desired to be applied. If the application rate per minute is below the desired rate, increase the gate opening and conduct another calibration flight.

If the application rate per minute exceeded the desired rate, do not change the gate opening. Cover about half of the hopper air vent. Use the fabricated airflow regulator or duct tape. Reducing or enlarging the vent opening changes the internal pressure in the hopper, decreasing or increasing the flow rate respectively. Make a second calibration flight.

If after the second flight the flow per minute still exceeds the desired rate, further reduce the vent opening and conduct another calibration flight. Do this until the application rate equals the desired rate. Calibration accuracy should be within 10 percent of the desired rate. A minimum of three consecutive acceptable calibration flights at the same settings will assure accurate application.

Safety and Storage

Before imitating a treatment for grasshopper or Mormon Crickets with wheat bran bait, always read the label carefully. Keep wheat bran dry during storage in enclosed buildings, trailers, or vans to eliminate the risk of the bait's becoming unusable. Also, keep bait in a cool location. Hot storage for long periods of time may cause the bait to become rancid and reduce effectiveness. Dispose of empty bags or containers according to State and Federal regulations printed on the label.

Potential Problems

The following lists identify some of the problems that most commonly occur with calibration and application of wheat bran baits.

Equipment

* Improper or no modifications or fabrication
* Nonstructural hopper baffles not removed.
* Airholes not covered with screen on agitation tube.
* Hopper gate seal not clean and dry.
* Side-loader flapper valve inside hopper not sealed.
* Air and agitation tube connection and alignment not proper.
* Loose gate linkage.
* Gate setting stop not in place.
* Gate setting screw jack moves.
* Hopper doors usually leak. Always cover in case of rain.

Material

* Lumps in bait from commercial formulation.
* Strings and/or paper in bait from the container or bag.
* Rocks, pebbles, or other objects in bait.
* Clumped bait due to moisture.
* Weight printed on bag or container inaccurate.
* Different types of bran or bran sources.
* Different formulations of bait.

Methodology

* Failure to follow guidelines.
* Failure to open hopper gate firmly and consistently.
* Inaccurate weighing during calibration and application.
* Failure to read scales accurately.
* Bait left in throat of spreader when weighing during calibration.
* Bait left in hopper when weighing during calibration.
* Calibration loads inconsistent in weight.
* Unlevel load during calibration flights.
* Calibration runs not conducted crosswind.

Weather Conditions

* Damp or wet hopper due to condensation or rain.
* Large humidity changes may change calibration.

Conclusion

The problems associated with accurate calibration and consistent application of bran bait by air have been identified. Solutions to the problems and procedures for implementing the solutions have been developed and refined. Both solutions and procedures are inexpensive. With experience, accurate calibration and application of bran bait by air can now be expected.

Table 1-Aircraft/spreader combinations that have been certified and swath widths assigned for applying wheat bran bait.

Aircraft Make/Model	Spreader Make/Model	Altitude	Swath
Cessna 188	Transland 20241/20244	50 ft	45 ft
Turbine Thrush	Transland 20250	50 ft	45 ft
Bull Thrush	Transland 22007	100 ft	100 ft

NOTE: When calibrating and/or swath checking for wheat bran bait applications, be cautioned that additional flight time will be required between the reporting date and starting date.

Any questions or concerns regarding this information can be addressed to Tim Roland (956) 580-7270 or Nelson Foster (602) 437-1295.